International Medical Society
http://imedicalsociety.org

INTERNATIONAL ARCHIVES OF MEDICINE
SECTION: NURSING
ISSN: 1755-7682

2017
Vol. 10 No. 210
doi: 10.3823/2480

Functional Capacity as a Factor Promoting the Quality of Life of the Elderly

ORIGINAL

Ermelinda Maria Bernardo Gonçalves Marques[1], Renata Saraiva Jabour[2]

1 PhD, Nursing Teacher at Health School-Polytechnic of Guarda/Research Unit for Inland Development-Polytechnic of Guarda, Guarda, Portugal.
2 Nursing. Phd in Nursing and Teacher Education and national Health Manager at Universidade Estácio de Sá, Rio de Janeiro, Brazil.

Contact information:

Ermelinda Maria Bernardo Gonçalves Marques.

Address: Avenida Dr. Francisco Sá Carneiro, nº50; 6300-559 Guarda.
Tel: 351271220191.

emarques@ipg.pt

Abstract

Objective: To evaluate the functional capacity of the elderly and their association with quality of life.

Method: A transversal, descriptive and analytical study was carried out by an individual and anonymous interview to 247 elderly people. A structured questionnaire was used, composed of sociodemographic characterization, katz index, lawton & brody scale and MOS SF-36 - Medical Outcome Study Short Form - 36.

Results: It was found that 80.6% of the elderly were independent in the ADL and 79.8% were independent in the IADL. On the whole, they show a reasonable quality of life. The study of the correlation between the results of the perception of the quality of life and the levels of independence in the ADL and the IADL revealed that the more independent elderly people tend to perceive a better quality of life.

Conclusion: These results can contribute to the nurses developing intervention measures that promote the maintenance or recovery of the functional capacity of the elderly and, consequently, improve their quality of life.

Keywords
Aged; Quality of Life; Activities of Daily Living; Nursing; Aging.

Introduction

The phenomenon of aging is a result of the demographic transition, moving from a demographic model of high fertility and mortality to a model in which both are low, leading to the narrowing of the base of the pyramid of ages, accompanied by the enlargement of the top.

The marked progress of medicine and the improvement of the socioeconomic conditions of the population have contributed to a signi-

ficant increase in the life expectancy of the elderly and also the more elderly, which has an impact on the over-aging of the population. Portugal, was noted from the eighties.

Portugal presents a scenario of marked aging, similar to what is happening at world level and at European level. Over the last few decades, we have witnessed a continued aging of the population, with the results of the 2011 censuses showing a proportion of 19% of the population aged 65 or over. The aging rate of the population worsened to 128 (102 in 2001), which means that for every 100 young people there are 128 elderly people. The Central region, where this study was carried out, just after the Alentejo region, is the oldest in Portugal, accounting for individuals aged 65 or over, 22.5% of the population and the aging rate of 163 elderly people for every 100 young people, with municipalities in this region where this index exceeds 400 elderly people per 100 young people [1].

In some respects, aging is considered a gradual evolutionary process with multidimensional and multidirectional changes, starting at different times and rhythms, which generates different results for the different parts and functions of the organism. In addition, it depends on genetic, biological and sociocultural factors, and is also influenced by the lifestyles adopted by the human being throughout the life cycle.

Aging is indeed a great achievement for humanity that needs to be better known and understood, since the significant increase in the elderly has not always been accompanied by a better quality of life and well-being, and today the aging of the population as one of the most concerning demographic phenomena in modern societies.

Quality of life was defined in 1994 by the World Health Organization Quality of Life group (WHOQOL) *as an individual perception of the position in life in the context of the cultural system and values in which people live and related to their goals, expectations, norms and concerns*. It is a broad, subjective concept that includes in a complex way the physical health of the person, its psychological state, the level of independence, social relations, personal beliefs and convictions and their relation with the important aspects of the environment [2].

Regarding the elderly, the concepts of quality of life presented in the literature are also characterized by their multidimensionality, i.e., they take into account functional capacity, emotional, psychological and sexual well-being, social support, satisfaction with life in general, the perception of health status, among others.

In this sense, the overall evaluation of the elderly should become a routine in the health professionals' role in the care of the elderly, and should include the evaluation of functional disability aiming at prevention and recovery [3].

Autonomy and independence are important factors associated with quality of life, which is important for the elderly, considering that the maintenance of health, an aspect highly valued at this stage of life, is strongly determined by its functional independence. According to the 2011 Census, about 50% of the population aged 65 or over report having difficulty performing at least one of their ADLs - Activities of Daily Living [1].

Autonomy and independence is referred to as the second most referenced subcategory, concluding that functional capacity is a central aspect of quality of life [4].

The World Health Organization (WHO) therefore argues that it is vital to create health, social and economic conditions so that the person can remain autonomous and independent as long as possible [5].

Functional evaluation has been considered as a fundamental resource in gerontology and geriatrics, assuming itself as a reference for the selection of strategies, as well as for the accomplishment of health care [6].

There are several instruments to evaluate the functional capacity of the elderly, such as the katz

index and lawton & brody scale, which have been widely used in several national and international studies, in their original form or with adaptations of the various researchers.

Sometimes, in health institutions, there is a simplifying evaluation of the elderly, with emphasis on the negative aspects of aging, which does not allow an adequate perception of their possibilities and the contexts that involve their quality of life. Also in the area of education, and more specifically, in the orientation of students of the nursing course in clinical teaching of primary health care, there is some weakness in the evaluation and proposals for intervention in care for the elderly.

Thus, as a nursing professional in the area of education, in a region where the phenomenon of aging assumes high proportions (central region of Portugal), it is thought to be very important to address this issue, presenting in this article only some data from a more extended on aging and quality of life, namely those who intend to answer the question: what is the functional capacity of a portuguese elderly community and its relation with quality of life?

Considering that functional disability exerts a significant influence on the quality of life of the elderly, this study aims to evaluate the functional capacity of the elderly person and its association with quality of life.

Method

For the implementation of this work, efforts were made with the president of the board of administration of the local health unit which includes the health center where the study was carried out, the director and the head nurse of the health center to, firstly, obtain data on the population to be studied (aged 65 or over) and to obtain authorization for the application of the data collection instruments. The objectives of the study were explained, obtaining a favorable opinion from the Ethics committee of the local health unit. The elderly who participated in the study were presented the objectives of the same; they were informed that they could withdraw from the research at any time, ensuring confidentiality and anonymity in all the information collected. Informed consent was obtained from all participants.

From the methodological point of view, this study is characterized as being transversal, descriptive and analytical, and it is part of a wider research on aging and quality of life. It was performed in a health centre of the central region of Portugal, in the november period 2013 to may 2014.

The target population of this study were the elderly users of a health centre, a total of 1419, obtaining a random sample and probabilistic. With a probability of type I error of 5 % with

a 95% confidence level and N = 1419 it was determined the size of the sample, whose value amounted to 302.

The number of sample persons and leaving all listings individuals aged 65 years or more. They were grouped by gender and age groups (from the birth year), thus creating new listings. With these new listings, it was allowed to meet the number of older adults by age group and sex, enabling, at random and systematic, define the elements to be included in the sample. Having regard to the number of subjects to be included in the sample (302, 21.28% of elderly health center users) and the percentage of seniors enrolled by sex and by age group a sample random was obtained and stratified.

It was used as a criterion of exclusion: the elderly with cognitive defect (rated through the *Mini Mental State Examination*) of Folstein [7].

Of the 302 seniors selected to be part of the study, 15 refused to respond to the questionnaire and 40 were excluded for presenting cognitive defect (20) or because they have not finished the interview (20) and at the end a sample consisting of 247 elderly, 81.79% of the sample selected and 17.41% of elderly users of selected health unit. The final sample of the study is representative of the target

population, with a level of confidence of 95% and a maximum error of 5.7%.

The chronology in data collection, obeyed a prior plan and all the instruments were applied through interview, which was planned according to the appointments of nurses at the health center, conducting home visits and the availability of the elderly, taking on average 55 minutes.

The sample demographic characterization variables were: sex, age, marital status, education, area, place where he is living, cohabitation and change of residence.

Functional ability was rated through the application of the rating scale of daily life activities-index of Katz and the range of Instrumental Activities of daily living of Lawton and Brody.

The katz index evaluates the functional dependency or independence of individuals to take a shower, get dressed, take care of hygiene, moving, disposal and food. Independence refers to the ability of the individuals to work without supervision, guidance or active personal help. As individuals who refuse to play a role, are considered unable to perform this same function, even if they guess they are capable of.

The scale of instrumental activities of daily living of lawton and brody was built specifically for the elderly, and can be applied in the institutionalized elderly and elderly not institutionalized. Measures the individual integration activities in the environment and in particular: use of phone, travel, shopping, meal preparation, housework, accountability in taking medication and ability to manage the money. The range features 3 chances to reply, namely: 1 point-total dependence; 2 points – partial dependence; 3 points-Independence from on the result between 7 and 21 points. The higher the score, the lower the dependence of the elderly, and vice-versa.

For the study of functional capacity and your relationship with the variables being studied, they settled three cutting notes in the light of the individual results obtained, namely: 7 points-total-dependent; 8-14 points – partial dependent; more than 15 points – independent.

To evaluate the quality of life was used the Medical outcomes study (MOS), Short Form 36-SF-36 (MOS SF-36) of Ware and Sherbourne [8], translated and validated by the Centre for Studies and Research in Health, the Faculty of Economics of the University of Coimbra in the Portuguese population-Portuguese version 2 [9]. Evaluates the lack of quality of life related to health. It was built to represent eight of the most important concepts in health including: physical function, physical performance, bodily pain, general health, vitality, social function, emotional performance and mental health.

The various scales contain 2 to 10 items and responses are punctuated by Likert method that, once processed and encoded if present in 0 to 100 values (0 corresponds to the worst and 100 the perfect state of health as possible).

To study the reliability of scales used proceeded to the study of your internal consistency. To this end, it has been calculated the coefficient alpha of Cronbach's Alpha for each of the scales and/or dimensions. The results obtained in all scales, present values superior to 0.700. This value is considered by most authors as revealing of good internal consistency. Given this fact, it can be concluded that the scales used showed good internal consistency and, consequently, can be considered reliable.

To systematize and enhance the information provided were used techniques of descriptive statistics and inferential statistics. The data are treated electronically using the statistical treatment program SPSS (Statistical Package for the Social Science), version 22, 2013.

None of the core variables of the study it was found one of the key conditions required for the application of parametric tests, i.e. no presented normal distribution, as showed the results of applying the Kolmogorov-Smirnov test ($p < 0.050$). This fact led him to opt for the application of nonparametric tests, settling, in all, the value of 0.050 for the maxi-

mum level of significance, that is, to the maximum value of the probability of type I error occurs.

For the study of the correlation between the results of the lack of quality of life and independence in activities of daily living and instrumental activities of daily living, applied the Spearman correlation coefficient and respective significance test.

Results

Took part of the sample 247 elderly people, of which 101 men (40.9%) and 146 women (59.1%), with the average age 76.74 years old and the standard deviation in 6.85 years. They were between the ages of 65 and 94 years, being the highest percentage (48.2%) occupied by the age group of 75 to 84 years; 145 seniors were married or lived in consensual Union (58.7%), 87 were widowed (35.2%), 12 were single (4.9%) and 3 were divorced (1.2%); 115 (46.6%) of seniors had the first cycle of basic education, followed by 59 (23.9%) that could read and write , but did not have any degree of education. The Group of illiterate, i.e. the elderly who can't read or write occupies 19.8%, corresponding to 59. 151 elderly people (61.1%) lived in rural areas; 193 (78.1%) lived in their own house, mostly (50.2%) with their spouse, followed by those who live alone, occupying 25.9% of the sample; the majority (78.1%) did not change their residence in recent years and those who changed said that the main reasons were diseases (33.3%) and retirement (20.4%).

Regarding the independence in ADL, evaluated through the Katz index, it was verified that, almost all the elderly, concretely 98.8%, were independent in the control of sphincters (bladder and anal) and eating, followed by 94.3% who were independent in body hygiene and 93.1% in the dressing activity. The evaluation of the degree of independence reveals that 80.6% of the elderly were independent in the six activities (eating, dressing, mobility, body hygiene, bathing, sphincter control), followed by 10.5% who were independent in five activities. These results show that the elderly were mostly independent in daily life activities.

The elderly were assessed for independence in IADL through the Lawton & Brody scale, with 79.4% receiving and making telephone calls without assistance, 59.1% traveling alone, 62.8% shopping, if transportation was provided, 57.5% planned and cooked full meals, 51.4% performed light tasks, providing help in heavy meals, 82.2% took unattended medications and 74.9% filled checks and paid bills.

It is concluded that the elderly showed a high degree of independence in the IADL, being verified that the majority (79.8%) were independent in the same ones.

The application of the MOS SF-36 Questionnaire (Portuguese version 2) allowed the evaluation of elderly people's perception of their health - related quality of life and the analysis of the results presented in the **Table 1**. The values of the central tendency measures and median are located around the central value of the scale, so it can be said that the elderly show a reasonable quality of life perception. It is also verified that the elderly perceive better quality of life in terms of social function, emotional performance and mental health and worse quali-

Table 1. Distribution of the elderly according to the perception of the quality of life related to health.

Dimensions	$\bar{X}$	Ms	S	x_{min}	$x_{máx}$
Physical function	49.33	50.00	28.00	0.00	100.00
Physical performance	47.09	50.00	26.12	0.00	100.00
Body pain	51.65	51.00	28.63	0.00	100.00
General health	47.43	45.00	18.68	5.00	90.00
Vitality	49.29	50.00	17.71	6.25	100.00
Social function	67.56	75.00	23.37	0.00	100.00
Emotional performance	60.56	66.67	24.62	0.00	100.00
Mental health	59.51	60.00	21.31	0.00	100.00
Health change	62.85	50.00	19.11	0.00	100.00

Source: Research data

ty of life in terms of physical performance, general health, vitality and physical function.

As for health change, that is, current health compared to what happened a year ago, the tendency was to consider it a little worse.

So In order to verify the association between the functional capacity and the quality of life of of older people research, the correlation between the results of the perception of the quality of life and the levels of independence in the ADL and the IADL was studied, applying the Spearman correlation coefficient and its significance test.

The results shown in **Table 2** allow to verify the existence of statistically significant correlations in almost all dimensions of the quality of life and, also, in the change of health. At the level of the dimensions positive correlations are observed but, in the change of health, the correlations are negative. These results allow us to conclude that the more independent elderly tend to perceive a better quality of life and a lesser deterioration of health status during the last year.

Table 2. Results of the study correlation of the perception of the QOL - Quality Of Life with the independence of the elderly in the ADL and the IADL.

imensions of LQ	Independence in ADL		Independence in IADL	
	r_s	P	r_s	P
Physical function	+0.51	<0.001	+0.57	<0.001
Physical performance	+0.40	<0.001	+0.53	<0.001
Body pain	+0.04	0.498	+0.19	0.002
General health	+0.21	0.001	+0.29	<0.001
Vitality	+0.19	0.003	+0.35	<0.001
Social function	+0.32	<0.001	+0.39	<0.001
Emotional performance	+0.23	<0.001	+0.32	<0.001
Mental health	+0.15	0.017	+0.26	<0.001
Health change	-0.13	0.042	-0.18	0.005

Source: Research data

Discussion

Of the 247 elderly people who participated in the research, the majority (59.1%) were female, 76,74 years of average age, married (58.7%), 46.6% had the 1st cycle of Basic Education, resided in rural areas (61.1%), In their own home (78.1%), did not change their residence in recent years (78.1%).

The functional capacity of the elderly was assessed through independence in ADL and IADL.

The results showed that the elderly were mostly independent in the ADL, with 80.6% being independent in all activities, values higher than those found in other studies [10], in which 59.1% of the elderly were independent in the six ADL and Only 40% of the elderly were considered independent [11]. The elderly studied are mostly independent in all ADL [12].

The fact that the elderly be dependent on the performance of the ADL is a predictor of increased mortality, functional capacity begins by deteriorate to the level of the ability to walk and to take a shower, which also occurred in this study (the lowest value was found in the activity of walking, in which 85.4% of seniors reported being independent, following the shower to 87.0% of seniors). Then, decrease the capabilities of dressing, taking care of your daily hygiene and eating, even though there may be a large interindividual variation. Take basic activities in which the individual is independent in personal care necessary for community life.

The loss of independence in the elderly is often associated with institutionalization, and this is a good option for the elderly when there is no family/social support that allows you to keep at home. In this sense, the results for the independence in the ADL, can justify the fact that only 14 seniors of the sample study, meet institutionalized.

With regard to the IADL we can say that they also exhibit a hierarchical relationship with the ADL, because the loss of independence starts by the IADL and finishes at the ADL. The elderly in this research showed a high degree of independence in the AIVD,

noting that most (79.8%) were independent in the same. In the light of the results obtained, and taking into account the scale of Lawton & Brody, used in this study, measures the activities of integration of individuals into the environment, it can be said that the elderly duly studied are integrated into your environment.

These results corroborate the idea that old age does not imply dependence, as reported in the latest World Aging and Health Report. This report adds that a number of entry points can be identified for interventions to promote Healthy Aging, all will have one goal: to maximize the functional capacity of the elderly [13].

Highlights, in this field, the relevance that the interventions of nursing professionals can come to have a correct assessment of the functional capacity of the elderly person in order to promote the maintenance or recovery of the same.

The application of the MOS SF-36 has allowed us to conclude that the sample of the elderly show a reasonable quality of life, because the values of the measures of central tendency varied between 47.09 points (physical performance) and 67.56 points (social role) in terms of average and between 50.00 points (physical function, physical performance and vitality) and 75.00 points (social role) to the median, so better results compared with other studies in which it was applied the same instrument for data collection evaluate the lack of quality of life, in which the high score obtained not exceeded 69 points in any of the dimensions of quality of life [14].

The literature on aging and quality of life, aspects already emphasized in the introduction of this article, shows us that one of the most outstanding aspect in the investigations about quality of life of the elderly is the autonomy and independence of the individuals in different contexts, Functional impairment has a very negative impact on quality of life. It was in this context that we proceeded to the study of the correlation between the perception of the quality of life and the functional capacity, evaluated through the independence in the ADL and the IADL. This study allowed us to state that there are statistically significant correlations in all dimensions of quality of life, except for the body pain dimension, both for ADL and IADL. These results show, as in several studies, that the more independent elderly perceive a better quality of life, which allows us to conclude that in fact the functional capacity is a promoter of the quality of life of the elderly, when one of the best ways of expressing how good it is to grow old is to show the total number of elderly people without disabilities, and therefore to live independently in the community, which has been shown by the increase in life expectancy without disability at age 65 [15]. One of the goals of the National Health Plan is to increase healthy life expectancy at age 65 by 30% in 2020 (it would be 12.9 years for men and 11.7 years for women, which would mean an increase of 6,9 and 5.6, respectively), assuming as fundamental to have programs that intervene in the age group of 50-60 years [16], which may constitute a great opportunity to intervene in the nursing consultation in the field of adult health.

The size of the questionnaire became a limitation, since it required a lot of time in the interviews, considering the size of the sample to be studied. It was possible to obtain a large amount of data through the application of the various instruments, although a greater volume of information may be withdrawn than the one presented in this article. On the other hand, the use of different instruments to evaluate the functional capacity and quality of life of the elderly presented in the several studies consulted also made it difficult to discuss the results of this research.

Aware of the limitations of this study, it may contribute to a redefinition of the strategies of the nursing intervention to the elderly in general and, specifically, to the elderly that integrated this research.

In this sense, it is believed that assess functional capacity and quality of life of older people, is an im-

portant way to obtain a broad knowledge of those who pay the care interventions that go far beyond the treatment of diseases. The functional capacity and quality of life can be considered positive indicators and objectives that can be taken into account in health assessments, as well as the evaluations of interventions/results in health.

The Health Center is so the privileged place for this evaluation, and may be performed at various times, not overloading the elderly with a comprehensive evaluation. However, the need of coordination between health services, social services, municipalities and education must not be forgotten. Only with a coordinated work and with common goals, if you can get an appropriate intervention to the elderly person.

Conclusion

This work has enabled us to assess the functional capacity of a group of elderly 247, concluding that they are mostly independent, in the ADL, either in the IADL. The results have enabled us to determine that the quality of life of the elderly relate to your functional capacity, noting that the elderly more independent tend to perceive better quality of life.

Taking into account that the inability of the elderly has become an important public health problem and that the results of this survey showed that the functional capacity is a factor of the quality of life of the elderly; it is important that health professionals be alert and identify early deterioration in functional capacity of this age group, and must become a practice of health services a multidimensional evaluation of elderly person in order to develop a more effective action through the concrete and achievable measures aimed at improving functional capacity and, consequently, the quality of life.

References

1. Instituto Nacional de Estatística (INE) [Internet]. Censos 2011. Resultados Definitivos – Portugal. Lisboa: Instituto Nacional de Estatística, I.P.; 2012. Available from: http://censos.ine.pt/xportal/xmain?xpid=CENSOS&xpgid=ine_censos_publicacao_det&contexto=pu&PUBLICACOESpub_boui=73212469&PUBLICACOESmodo=2&selTab=tab1&pcensos=61969554.
2. World Health Organization (WHO) [Internet]. Men, ageing and health: achieving health across the life span. Geneva: World Health Organization; 2001. Available from: http://apps.who.int/iris/handle/10665/66941
3. Brito KQD, Menezes TN, Olinda RA. Functional disability: health conditions and physical activity practice in older adults. Rev. Bras. Enferm. [Internet]. 2016 [cited 2016 Aug 08]; 69(5):773-80. Available from: http://www.scielo.br/pdf/reben/v69n5/en_0034-7167-reben-69-05-0825.pdf. doi: http://dx.doi.org/10.1590/0034-7167.2016690502
4. Cabral RWL, Santos SR, Menezes KDNB, Albuquerque AV, Medeiros AL. Fatores sociais e melhoria da qualidade de vida dos idosos: revisão sistemática. Rev enferm UFPE on line [Internet]. 2013 [cited 2016 Aug 08]; 7(5):1434-42. Available from: http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/download/3952/6135. doi: 10.5205/reuol.3960-31424-1-SM.0705201326
5. Rodrigues RMCl, Silva CFR, Loureiro LMJ, Silva SMDT, Crespo SSS, Azeredo ZAS. Os muito idosos: avaliação funcional multidimensional. Rev. Enf. Ref. [Internet]. 2015 Jun [cited 2017 Jan 18]; serIV (5): 65-74. Available from: http://www.scielo.mec.pt/pdf/ref/vserIVn5/serIVn5a08.pdf. doi: http://dx.doi.org/10.12707/RIV14040
6. Quintana JM, Ferreira EZ, Santos SSC, Pelzer MT, Lopes MJ, Barros EJL. a utilização da classificação internacional de funcionalidade, incapacidade e saúde no cuidado aos idosos. Rev. Enf. Ref. [Internet]. 2014 Feb-Mar [cited 2016 Jan 28]; serIV (1): 145-52. Available from: http://www.scielo.mec.pt/pdf/ref/vserIVn1/serIVn1a16.pdf. doi: http://dx.doi.org/10.12707/RIII12151
7. Guerreiro M, Silva AP, Botelho M, Robusto-Leitao 0, Castro A, Garcia ACFS. Adaptação à população portuguesa da tradução do "Mini Mental State Examination" (MMSE). Revista Portuguesa de Neurologia [Internet]. 1994 [cited 2016 Jan 28]; 1:9-10. Available from: https://www.scienceopen.com/document?vid=97d4329c-9dba-49fe-9df1-db1215f3d4c5
8. Ware JE Jr, Sherbourne CD. The mos 36-item short-form health survey (SF-36). I. Conceptual framework and item selection. Med Care [Internet]. 1992 Jun [cited 2016 Jan 28]; 30(6): 473-83. Available from: https://www.ncbi.nlm.nih.gov/pubmed/1593914
9. Ferreira PL. A medição do estado de saúde: Criação da versão portuguesa do MOS SF-36 [tese]. Coimbra: Centro de Estudos e Investigação em Saúde; 1998.

10. Evangelista EA, Oliveira VC, Cruz GECP, Carvalho L, Alvarenga MAS. Instrumentalização do índice de katz na população idosa de uma unidade da estratégia saúde da família. Rev enferm UFPE on line [Internet]. 2013 Ago [cited 2016 Jan 28]; 7(8):5150-6. Available from: http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/download/4100/6900
11. Lobo AJS, Santos L, Gomes S. Nível de dependência e qualidade de vida da população idosa. Rev. bras. enferm. [Internet]. 2014 Nov-Dec [cited 2017 Mar 12]; 67(6): 913-19. Available from: http://www.scielo.br/pdf/reben/v67n6/0034-7167-reben-67-06-0913.pdf, http://dx.doi.org/10.1590/0034-7167.2014670608.
12. Campos S, Fermento C, Martins R, Martins C, Andrade A. Personal investment and functional independence in elderly. Aten Primaria [Internet]. 2016 Sept [cited 2016 Mar 12]; 48(Espec Cong 1): 229-33. Available from: http://www.elsevier.es/es-revista-atencion-primaria-27-articulo-personal-investment-functional-independence-in-X0212656716593795
13. Organização Mundial de Saúde [Internet]. Relatório Mundial de Envelhecimento e Saúde. Suíça: Organização Mundial de Saúde. 2015 [cited 2017 Jan 21]. Available from: http://apps.who.int/iris/bitstream/10665/186468/6/WHO_FWC_ALC_15.01_por.pdf
14. Lobo AJS, Santos L, Gomes S. Nível de dependência e qualidade de vida da população idosa. Rev. bras. enferm. [Internet]. 2014 Dec [cited 2016 Mar 10]; 67(6):913-19. Available from: http://www.scielo.br/pdf/reben/v67n6/0034-7167-reben-67-06-0913.pdf
15. Kalache A. O envelhecimento da população: a saúde e novos desafios sociais. Fórum Gulbenkian de Saúde. 4º Ciclo de debates 2000/2001. Lisboa: Fundação Calouste Gulbenkian; 2002.
16. Ministério da Saúde (PT). Direção Geral da Saúde. Plano Nacional de Saúde. Revisão e Extensão a 2020. 2015 [cited 2017 Jan 10]. Available from: http://1nj5ms2lli5hdggbe3mm7ms5.wpengine.netdna-cdn.com/files/2015/06/Plano-Nacional-de-Saude-Revisao-e-Extensao-a-2020.pdf.pdf